

**WINDOW REAM WRAP**

**Field of the Invention**

The present invention relates to a novel composite wrap material with holes cut into the wrap material and covered with a solid film structure to form transparent windows, and methods of making such wrap material with windows. More particularly, the invention relates to a composite wrap material with transparent windows that is used for packaging paper products.

**Background of the Invention**

Reams (i.e., 500 sheets) of cut paper (8 1/2 X 11, etc.) for copy machines, computers, printers, and other applications are most commonly packaged for shipping, storage and retail sale in ream wrappers made of various composite wrap materials. These wrap materials traditionally have been paper (poly coated or two papers laminated with poly), plastic film, or a paper/solid plastic film combination. In addition to encasing the reams of paper, the wrap materials protect the wrapped paper product from physical damage and moisture pickup during shipping and storage. The wrap materials also protect the wrapped product from physical damage during repeated handling, distribution, and stocking on retail shelves.

As retail and store distribution of reams of paper has increased, paper manufacturers have developed wrap materials with improved printing surfaces to enhance graphics and to provide an eye-appealing wrapped product for the consumer. One of the disadvantages of current and conventional ream wraps is that they are non-transparent and do not permit the consumer to view the reams of paper encased in the wrapper.

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Viewing the contents of the wrapped paper product is important, in particular, when reams of colored paper are contained in the wrapped paper.

Some paper manufacturers have attempted to address the non-transparency problem of ream wrap by wrapping reams of colored paper in paper-based or paper/solid film materials that are the same color as the wrapped product. However, the use of colored wrappers does not address the problem of the non-visibility of paper reams consisting of more than one color.

Some manufacturers have used a transparent film wrapper to display the contents of packages containing reams of colored paper or papers of more than one color. However, a disadvantage of the transparent film-based wrappers is that they are difficult to run on conventional packaging equipment during the wrapping process and require costly modifications to a paper packaging line. In addition, film-based wrappers lack the structural support of heavier weight paper laminates, coated papers, and paper/film composites, and result in broken, unsightly packages on store and retail shelves.

US Patents 4,852,795 and 4,726,802 relate to a mailing cover with reply envelope and response device made from integral web. A composite mailing wrapper suitable for use with a catalog or magazine is produced from an integral web and comprises front and rear cover sheets joined along a longitudinal fold line to which is detachably connected at least one preformed reply envelope, and optionally, at least one response device which is detachably connected to the envelope flaps. When assembled to the catalog the envelope and optional response devices are contained within the fold of the cover sheets.

### Summary of the Invention

The present invention comprises a paper composite or laminate material with transparent, solid plastic film windows, enables customers and end-users to view the contents of the wrapped product. The present invention further provides the use of paper-based composite or laminate ream wrap materials, which run well on ream wrapping and paper packaging lines.

An object of the present invention is to provide wrap materials that protect paper products from physical damage, act as a moisture barrier, and provide a package which consumers and end-users can view on store and retail shelves. A further object of the present invention is to provide a composite wrap material with transparent windows cut into it, making visible the paper product encased in the ream wrap.

It is an object of the present invention for the windows to be of various shapes and sizes cut into various locations of the final wrap structure.

The present invention assists in shipping, storage, sorting, distribution and retailing of wrapped paper products by providing a wrap material that permits end-users and consumers to view the reams of paper encased in the wrapper through transparent, solid plastic film windows cut into the wrap material.

It is an object of the present invention to form the transparent windows by adhering pre-cut solid, transparent film patches to holes cut into the finished wrap material.

It is an object of the present invention to adhere or laminate a sheet of solid plastic, transparent film to a paper based wrap material that is already pre-cut with holes.

When the solid film structure is adhered or laminated to the pre-cut paper material, transparent windows are formed.

It is an object of the present invention to provide a ream wrap which comprises a first layer of paper, a second layer of transparent film and an adhesive between the first and second layers. The paper has holes precut at various locations, the holes being covered by the layer of film. It is an object of the present invention for the paper to have a basis weight of about 20-60 pounds per 3,000 square feet.

It is an object of the present invention for two or more sheets of paper to be laminated or adhered to a full length sheet of film. Gaps are left between the papers creating a window with the film.

#### Brief Description of the Drawings

Figure 1 is a top view of an embodiment of the present invention.

Figure 1a is a view of the cut away section of figure 1.

Figure 2 is a top view of an embodiment of the present invention.

Figure 2a is a view of the cut away section of figure 2.

Figure 3 is a top and side view of an embodiment of the present invention.

Figure 3a is a view of the cut away section of figure 3.

Figure 4 is top view of an embodiment of the present invention.

Figure 5 is a top view of an embodiment of the present invention.

Figure 5a is a view of the cut away section of figure 5.

Figure 6 is a top view of an embodiment of the present invention.

### Detailed Description of the Present Invention

The transparent windows in the ream wrap can be produced through various methods. In one embodiment, the method comprises a polycoated or poly laminated paper or paper/solid plastic film composite wrapper being completely produced and then cutting holes of various shapes and sizes into the finished wrap material in various positions or locations. A pre-cut solid plastic, transparent film structure is then adhered in place over the holes in the finished wrap material using an adhesive to create the window. The pre-cut solid plastic film structure is cut and sized to completely cover the holes cut into the finished composite wrap material and form a patch over the window. One or more holes may be cut into the composite wrapper in various locations and covered by the transparent, solid plastic film to form a window or windows. The resulting window or windows maintain the protective layer and moisture barrier of the finished composite wrap material to safeguard the integrity of the wrapped product encased therein.

In a further embodiment, the product is produced by cutting holes of various shapes and sizes into a paper-based material in various locations and then poly laminating or adhering with liquid adhesive the pre-cut paper-based material to a solid plastic film which cover the entire structure, including the pre-cut holes, and forming transparent windows in the final wrap material.

The final composite wrap material may contain transparent, plastic film-covered windows of various shapes and sizes, and in various locations, on one or multiple sides of the structure encasing the wrapped paper product.

Figures 1 and 1a is a top view of an embodiment wherein a sheet of polycoated paper or paperpoly film composite 10 has three holes cut out of the paper. A sheet of plastic or film 20 is adhered to the bottom surface of the paper creating windows 12, 14 and 16.

Figures 2 and 2a is a top view of an embodiment wherein a sheet of poly coated paper or paper/solid coated film 30 has a single hole cut out of the paper. A sheet of plastic 40 is adhered to the bottom surface of the paper creating window 36.

Figures 3 and 3a is a top view of an embodiment wherein a sheet of poly coated paper or paper/solid coated film 42 has a single hole cut out of the paper. A sheet of plastic 46 is adhered to the bottom surface of the paper creating window 44. In this embodiment, the window 44 allows a user to see the multiple sheets of paper 48.

Figure 4 is an embodiment wherein a sheet of paper 50 has three holes cut out of the paper. A full length sheet of film 60 is laminated or adhered to the sheet of paper 50 creating windows 52, 54, and 56.

Figures 5 and 5a is a top view of an embodiment wherein a sheet of paper 70 has a hole cut out of the paper. A full length sheet of film 80 is laminated or adhered to the top of the sheet of paper 70 creating a window 72.

Figure 6 is an embodiment where two sheets of paper 80 and 82 are laminated or adhered to a full length sheet of film 84. A window 86 is created between the gap of the two sheets of paper.